

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for processing a target substrate in a semiconductor processing apparatus, the method comprising:

controlling temperature of a first substrate to be at a process temperature inside a process container, while supplying a process gas into the process container, thereby subjecting the first substrate to a semiconductor process, during which a by-product film containing at least 50% titanium nitride is formed on an inner surface of the process container;

subsequently to the semiconductor process and unload of the first substrate out of the process container, supplying a gas for oxidizing the by-product film as a reforming gas into the process container, thereby subjecting the by-product film to a reformation process, which is set to reduce thermal reflectivity of the by-product film by transforming the by-product film into a film containing at least 50% titanium oxide; and

subsequently to the reformation process, controlling temperature of a second substrate to be at the process temperature inside the process container, while supplying the process gas into the process container, thereby subjecting the second substrate to the semiconductor process.

Claim 2 (Original): The method according to claim 1, wherein the reformation process is set to change color of the by-product film to white or transparent.

Claim 3 (Original): The method according to claim 1, wherein the reformation process is set to change light transmission of the by-product film to be 70% or more.

Claims 4-6 (Canceled).

Claim 7 (Currently Amended): The method according to claim [[6]] 1, wherein the reforming gas comprises oxygen, oxygen radicals, or ozone.

Claim 8 (Currently Amended): The method according to claim [[6]] 1, wherein the reformation process is performed at a reforming temperature ~~sufficiently~~ higher than the process temperature.

Claim 9 (Original): The method according to claim 1, wherein the reformation process and the semiconductor process are alternately repeated.

Claim 10 (Original): The method according to claim 1, wherein the reformation process is performed after the semiconductor process is repeated a plurality of times without the reformation process.

Claim 11 (Original): The method according to claim 1, wherein the semiconductor process is a process for forming a thin film on a target substrate by a CVD process.

Claim 12 (Currently Amended): A method for processing a target substrate in a semiconductor processing apparatus, the method comprising:

controlling temperature of a first substrate to be at a process temperature inside a process container, while supplying a process gas into the process container, thereby forming a thin film containing at least 50% titanium nitride ~~a metal nitride as a main component~~ on the first substrate by a CVD process, during which a by-product film containing at least 50%

titanium nitride ~~a metal nitride as a main component~~ is formed on an inner surface of the process container;

subsequently to the CVD process and unload of the first substrate out of the process container, supplying a gas for oxidizing the by-product film as a reforming gas into the process container, thereby subjecting the by-product film to a reformation process, which is set to oxidizes the by-product film with the reforming gas at a reforming temperature ~~sufficiently~~ higher than the process temperature, so as to reduce thermal reflectivity of the by-product film by transforming the by-product film into a film containing at least 50% titanium oxide; and

subsequently to the reformation process, controlling temperature of a second substrate to be at the process temperature inside the process container, while supplying the process gas into the process container, thereby forming a thin film on the second substrate by the CVD process.

Claim 13 (Original): The method according to claim 12, wherein the reforming gas comprises oxygen, oxygen radicals, or ozone.

Claim 14 (Original): The method according to claim 12, wherein the process gas comprises a halogenated metal gas, and a gas containing N and H.

Claim 15 (Original): The method according to claim 14, wherein the halogenated metal gas is titanium tetrachloride.

Claim 16 (Original): The method according to claim 14, wherein the gas containing N and H is ammonia.

Claim 17 (Currently Amended): The method according to claim 12, wherein the process container is light-transmitting and configured to accommodate a plurality of target substrates at intervals in a vertical direction, the CVD process is performed while heating an interior of the process container by heat from ~~the target substrates are heated by~~ a heater disposed around the process container, and the by-product film is present between the target substrates and the heater.

Claim 18 (Canceled).

Claim 19 (New): The method according to claim 1, wherein the semiconductor process is performed while heating an interior of the process container by heat from a heater disposed around the process container, which is light-transmitting, and the by-product film is present between the target substrate and the heater.

Claim 20 (New): The method according to claim 1, wherein the reformation process is set to change light transmission of the by-product film to be 70% or more.